

6. Continue the boiling for thirty minutes. Be careful in observing this direction.

7. Take out the cubes one at a time, and hang them up by threads in such a way that they may touch nothing. Place under each specimen a vessel containing a portion of the liquid in which the stones were boiled, having first strained it to remove all dirt, dust, &c.

8. If the weather be not very damp or cold the surfaces of each stone will, in the course of twenty-four hours, become covered with little white saline needles. Plunge each stone into the vessel below it, so as to wash off these little crystals, and repeat this two or three times a day.

9. If the stone be one that will resist the action of frost, the crystals will abstract nothing from the stone, and there will be found at the bottom of the vessel neither grains, nor scales, nor fragments of stone. Be careful in dipping the stone, not to displace the vessel.

If, on the contrary, the stone is one that will not resist the action of frost, this will be discovered as soon as the salt appears on the surface, for the salt will chip off little particles of the stone, which will be found in the vessel beneath; the cube will soon lose its sharp edges and angles; and by about the fifth day from the first appearance of the salt, the experiment may be considered at an end.

As soon as the salt begins to appear at the surface its deposit is assisted by dipping the stone five or six times a day into the solution.

10. In order to compare the resisting powers of two stones which are acted upon by the frost in different degrees, all that is necessary is, to collect all the fragments detached from the six faces of the cube, dry them and weigh them, and the greatest weight will indicate the stone of least resistance to the frost. Thus, if a cube of twenty-four inches of surface loses 180 grains, and a similar cube only 90 grains, the latter is evidently better adapted than the former to the purposes of building.

LAW OF DILAPIDATIONS.

There are few points of architectural jurisprudence which interest so large a number of persons as does the question of dilapidations. Whether to landlord or tenant, surveyor or operative, the matter is one of importance, and several attempts have consequently been made to reduce the laws which relate to it to some sort of certainty. Being in many cases a question of degree, law cannot always be made to apply; and custom, and the experience of the surveyor, must be appealed to. "Still," as Mr. Gibbons remarks in his "Treatise on the Law of Dilapidations," "it is important that the surveyor should have some knowledge of the principles of law, in order that he may know the points to which he has to apply himself in framing his survey and estimate, and may not labour in vain. The great discrepancy in the evidence of different surveyors, and the little esteem in which their testimony is consequently held, arises in a measure from inattention to legal principles; and if, in making their surveys, they were to govern themselves by the settled rules of law, and not proceed upon their own vague notions of right, they would be more useful to the administration of justice, and their opinions more respected."

The attention of the council of the Institute of Architects having been directed to this subject, as one on which the opinion of the institute might be expressed with advantage; a committee, consisting of Messrs. George Smith (Mercers' Hall), John Newman, John Bull Gardner, W. F. Pocock, and W. Rogers, was appointed to investigate and report on the practice in valuing dilapidations, and on the state of the law by which such valuations are effected. The Report of this committee is now published, and forms an exceedingly useful document. We do not hesitate to recommend it to our readers. In the preface to the Report, the council remark that it appears "to be an inherent defect in the general mode of preparing leases, that they are drawn from antiquated precedents, without an attempt at the modifications necessary to meet modern improvements, or to provide for special cases or contingencies. A tenant bound to repair, uphold, support, and maintain

a new house, is obviously in a very different position from one upon whom the same condition is imposed with respect to an old and nearly worn-out, though tenable fabric, and yet the distinction is unheeded in the repalling conventions of any form of lease commonly adopted."

To obviate this difficulty they propose that previous to the execution of a lease the premises should in all cases be surveyed, and that a schedule should be drawn up, signed by the lessor and lessee, specifying the actual state of every part of the buildings, by reference to which the dilapidations should be assessed at the end of the term.

As to the definition of the term dilapidations, the report says, "dilapidations are, in usual practice, considered to be those defects only which have arisen from neglect or misuse; and not to extend to such as only indicate age, so long as the efficiency of the part still remains. But if the effects of use or age have proceeded so far as to destroy the part, or its efficiency in the structure, this argues neglect or misuse; it being the presumption that at the commencement of his term, the tenant was satisfied that every part was sufficiently strong to last to its close."

In cases of yearly tenancy, the usual practice, says the Report, is to require the tenant to make good all works damaged, or any waste committed during his tenancy; but not to make good injuries arising from fire, use, or wear, or lapse of time; "in fact, he is only bound to such repairs as are necessary to keep a house or building wind and water-tight." This latter statement is not correct, or all events is ill-expressed, and does not agree with that which precedes it. If paper-hangings be torn by a tenant, a hearth broken, the mowing of a step knocked off (not worn), or any other waste committed, he must make good the damaged work. Even if external wood-work decay for want of painting sooner than it otherwise would do, the tenant is bound to restore it.

As regards ecclesiastical dilapidations, the Report states, the usual practice "is to consider that (independently of the obligation to compensate for actual deficiencies) the representatives of a late incumbent are liable for the value of repairs equivalent to, or commensurate with, the extent of those which, in civil cases, a lessee would be called upon to perform on taking a lease for twenty-one years, under an agreement to put the premises into complete and substantial repair at the commencement of such a term."

But it points attention to a case wherein it was ruled that the incumbent was not bound to supply or maintain any thing in the nature of ornament.

The Report afterwards says, "An incumbent is in many instances bound to keep the chancel of the church in repair; and the liabilities to repair it may be considered as amounting to those above stated with respect to the other premises held by him."

The law is more stringent than is here stated. Excepting through special custom, the incumbent is bound in all cases to repair the chancel and maintain it in a proper state for divine service. By the 35th of Edward I., statute 2, the incumbent is permitted to sell timber growing in the church-yard for this purpose, and may, if he please, do so for the relief of the parishioners when the body of the church needs repair.

FALL OF A SCAFFOLD THROUGH OVERLOADING IT.

On Monday last a melancholy event occurred at the corner of Jernyn street and Duke street, St. James's, involving the loss of one human life; if not more. During the last few weeks, the house at which the occurrence took place had been pulled down, and was nearly rebuilt. At the time of the accident the workmen were employed in raising a large cornice-stone, weighing between six and seven hundred-weight, and on its arriving near the top of the building, the stone was over-balanced, and fell with the scaffolding, striking a workman named Francis, a mason's labourer, and two other workmen, John Perry, a mason, and William Smith, a labourer. The poor fellow Francis was killed on the spot, and fell into a well which was in the area, the depth of several feet, whilst Smith and Perry were so frightfully injured, that they were conveyed to St.

George's Hospital in an almost dying condition; Smith, in particular, had his skull fractured in a shocking manner. On the recovery of the body of Francis from the well, he appeared literally crushed to an almost indistinguishable mass, and those who saw the sad spectacle were so paralyzed, that for some time they were unable to render assistance.

At the inquest upon Francis, the following evidence was given:—James Sunderland said he was a labourer in the employ of Mr. Archbutt, the builder, of Chelsea, and was at work that morning at the house-rebuilding for Mr. Slater, at the corner of Jernyn and Duke streets. Deceased was in the same employ, and worked there also. Shortly after nine o'clock he was on the scaffold when it gave way. The deceased, with the other two injured men, were on the scaffold at the time. There were two stones on the scaffold, weighing between fourteen and fifteen hundred-weight. Witness was engaged with the others in lifting one of the stones, weighing six and seven hundred-weight, when some part of the scaffold gave way, and both pieces of stone fell suddenly, and deceased and the other two men with them. Could not account for the accident, and thought the scaffold perfectly safe before. Most likely it was the putlocks gave way. They were not very strong, at least they did not appear to be. Mr. Edward Fuster deposed that he was clerk of the works for Mr. Archbutt, at the house, 47, Jernyn-street. Was in the building at the time, and heard the scaffold break. He ran from the place where he was standing, and saw the poor fellows, Perry and Smith, lying in an excavation made for vaults. They must have fallen at least from 60 to 80 feet. He could not assign any reason for the accident, as the scaffold was a good one, although only a bricklayer's scaffold. The putlocks might have given way, but he thought that could only have been caused by the working of the stone with the mallet on the scaffold; that would considerably increase the weight. The strength of the scaffold was not increased on account of the same being tacked upon it. It was considered safe, as on Saturday the scaffold had upon it three times the weight of stone it had to-day. The jury, after considerable discussion, returned a verdict of Accidental Death. They, however, added their strong opinion that the scaffolding had been used for the purpose of supporting a much greater weight than was proper.

NEW METHOD OF Etching GLASS.—At a meeting of the Chemical Society, Mr. Warrington described a new method of covering glass, by precipitation; with a coating of metallic silver, the invention of Mr. Dracott. It consists of partially precipitating, and thus neutralising (to use the inventor's own words), a solution of nitrate of silver, by spirit of hartshorn, and adding to the clear solution, after subsidence, oil of castor, previously dissolved in spirits of wine. This compound mixture forms the silvering menstruum, and is to be poured on the surface of the glass, or into the vessel intended to be silvered, the surfaces having been previously rendered perfectly clean. Oil of cloves, dissolved in spirits of wine, is then to be gradually dropped over the surface of the silvering solution, or the two solutions may be rapidly mixed and then applied immediately. In the course of about fifteen minutes a faint purple cloud appears, and this gradually spreads through the whole of the solution, and deepens in tint until it becomes opaque, when the operation is complete, and a most beautiful mirror is obtained. As thus produced, the reflecting surface is darker in its aspect and more similar to the brilliancy of a very highly polished speculum. The risk of breakage attendant on the usual process, by means of tinful and mercury, is also avoided, particularly where very large looking-glasses are being constructed; and the great advantage obtained of being enabled to silver uneven surfaces, as of lenses or cut glass.

BISHOP KEN'S TOMB.—A subscription has been opened for the purpose of renovating the tomb of Bishop Ken in the churchyard at Frome, and, as a tribute to the memory of the good bishop, restoring, in strict accordance with ecclesiastical propriety, the adjoining chancel of Frome church. In furtherance of these objects, the family of Longlet have subscribed 250*l.*, the Bishop of Salisbury, 10*l.*, and there follows a long list of contributors.